

EXHIBIT "A"



- Web Site Design
- Web Hosting

- Internet E-Commerce
- Web Consulting

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Attn: Richard Davidson
Hagelin & Company
Phone: 908-707-4400
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Dear Mr. Davidson,

Upon reviewing our meeting notes the following is a cost estimate regarding the installation and set-up of a new server, also set-up and custom program database application. We estimate roughly two to three weeks from acceptance and deposit to having an initial prototype online, regardless of server status.

Hagelin server set-up and application software estimate: \$4,500.00

Note this price estimate does not include secure certificate or server hardware costs.

Our recommendations and specifications:

Initially, the Hagelin site will be very low load, and could be served with nearly any Pentium X-class workstation, provided the hardware is supported by the FreeBSD (or Linux, but preferably FreeBSD) operating system.

However, there are a few things to consider if opting to "save on the hardware" now and use a "recycled" PC or low-end hardware. The first issue is reliability. Your server will ultimately be replacing your current database of flavor types. Although this is a rather small, and very static database, what are the implications of a loss of data due to a hardware failure?

Another issue to consider is scalability. Although the current application is relatively small in scope, are there any longer-term plans for additional web enabled data management services? While purchasing low-end hardware may initially save some money, as systems grow larger and more complex it becomes more difficult to "move" an application onto new hardware than install more memory, another drive or another processor into a server which supports these capabilities.

Intel-based computer prices are very reasonable, and highly reliable and scalable rack-mount (or tower) servers are available from anywhere between \$1500 and \$15,000.

The fact that you have an existing in-house network presents more options when determining server configurations. Assuming the internal LAN uses IP networking and "non-routable" addresses, a very secure and reliable solution (which could offer nearly seamless backup and recovery) would be to run two servers which are essentially mirrored:

Run the database engine on one server, on only the internal network, and run the web server on both the non-routable internal network and the internet. This configuration provides the following advantages:

- During multi-server operation, the database can not be reached directly from the internet, only via the web application server.
- Timely backups of the database can be made and stored on either the web server or external media, which can be used by the web server in the event of a hardware failure on the database server.
- In the event that the internet web server fails, the database is intact on another machine which can be quickly configured to run the web server daemon.
- In the event that the database server fails, the web server can be quickly configured to start the database engine locally, using a recent backup.
- In the event that the web server is "hacked", only the application software would be "lost", not any sensitive data behind the application.

Whether you opt for a single or multi-server solution, any servers used should have multiple network cards. Since their database will be used both locally and via the internet, in the event of any lack of internet service, the cost of not being able to access the database will most likely far outweigh the \$100 spent on additional network card.

D.C. Helms Inc. only builds applications using software foundations (such as the Apache web server and MySQL Relational Database Management System) which are reliable, scalable and configurable to meet your current and future needs, so it makes sense to run your application on scalable hardware. Additionally, all internet based applications which use database backends are designed in such a way that they can quickly attach to a database on any external server which supports both the database and the connection request. This provides a nearly limitless array of data management, preliminary testing and recovery solutions.

Hardware:

- (1) PIII 1GHz Processor on dual or quad processor motherboard
- (1) 512MB PC133 SDRAM
- (2) Intel Pro 100 MB ethernet network cards
- (1) TNT2 AGP graphics adapter (8 - 32 Mb)
- (1) Adaptec AHA29160 SCSI Controller
- (2) 18GB 10,000 RPM ultra SCSI-160 drives
- (1) PS/2 Keyboard
- (1) PS/2 Mouse
- (1) Monitor... any

Operating System:

FreeBSD 4.3 (or current stable)

Server Software:

Apache 1.3.20 (or current stable) web server
SSH (default on FreeBSD systems)
PHP 4.0.6 (or current stable)

MySQL 3.23.41 (or current stable)
PostgreSQL 7.1.3 (or current stable)
Perl 5.6 interpreter
GIMP 1.2.x (GNU Image Manipulation Program)
gtk current stable
gcc compiler

Please view the "Hardware" links from <http://www.freebsd.org>

Perhaps more specifically:

<http://www.apache.com>

<http://www.freebsdsystems.com>

<http://www.terasolutions.com> (TS5110)

Most of these companies also provide very reasonable (if not inclusive) service agreements for the servers they provide.

Application Requirements

Session, Security and User Management

The Hagelin application will need a flexible and secure method of managing users which will be connecting to their application and database via the internet. Security can be achieved and managed at levels, including:

- **Connection level security.** Secure sockets, which allows encrypted data to be transferred over public networks and decrypted only by parties of the socket connection.
- **Application level security.** Session and security management, which assures that web content is not delivered to unauthorized parties, regardless of their connection type. Session Management is used to associate a users login name with a specific user-level, which in turn is checked prior to delivering content.
- **Data File Security.** Assuring that raw data files used by the database server can not be accessed directly via the internet.
- **System Level Security.** Assuring that the computer can not be accessed via any unnecessarily open ports (such as anonymous FTP, telnet, etc) A completely web-enabled method for system administrators to manage users of their servers, as well as a client/contact database.

Searching Flavor Type Database

The Hagelin application requires that registered users can search, select and request samples of their various flavors based on flavor type, legal status, product form (liquid or powder), etc.

Your application also requires that their users be able to view definitions and descriptions of each flavor type, in order to best define their sample selection.

The application will also require that there's a way for users to make a request for flavors that may not be apparent via their search strings; a web-based method of interacting with Hagelin if they can't find what they're looking for.

Gathering Session Data and Search Criteria For Order Preparation

The Hagelin application requires that any successful search and match made by the user can be used to generate a pick ticket / shipping invoice. Since users are automatically associated with their respective client information upon logging into the system, associating session data with an order entry is necessary, and automatic.

- Users need to be able to select between a 1,2 or 4 oz. sample size.
- The application will also accept a required date for shipment/delivery.
- The Hagelin application also requires a method of assuring that users aren't "abusing their samples" privileges; a tracking system which manages how many samples are delivered per individual client.

Maintaining Database

The Hagelin application will require that there be a completely browser based application for input and maintenance of the database tables required by the application.

Implementation and Deployment

Hagelin requires that their application be ready for initial testing by mid/late November 2001, with "full-scale" deployment in early 2002. The interim period between November 2001 and January 2002 shall be used for fine-tuning and usability testing, based on feedback from clients and Hagelin personnel.

Network Requirements & Recommendations

The single most important aspect of network service when delivering web-based applications (aside from the reliability!) is the absolute necessity for static IP addresses. Though DSL may appear to be a very cost-effective means to high speed network access, IP addresses are often dynamically set (which is absolutely unacceptable when running a web server!), and many DSL providers have clauses in their service agreements which limit (or completely preclude) the use of their service for the purpose of running a web server.

Additionally, while most DSL lines offer very respectable download speeds, their upload speeds are usually only a fraction of their download speeds... which is great for surfing the internet, but not so great for "serving" the internet.

DSL should be used only if:

- Your DSL service provider can provide you with static IP addresses;
- Your DSL service provider has no limitations on bandwidth usage or running web servers on your bandwidth;
- Your DSL service provider understands, appreciates and can service you even though you're NOT using a Mac or Win32 (95/98, Windows NT, Windows 2000) operating system. Just remind them that the internet was designed and built on Unix!

Initially, the Hagelin server will be very low load and could probably get by with 128K of network bandwidth. This should easily support up to 3 or 4 simultaneous connections with negligible impact on a client accessing the server via a dialup connection. Keep in mind that the connection "lifecycle" is typically quite short; a request to the web server is answered in a very short amount of time (often less than a second), then connection is idle (if waiting for the next HTTP/1.1 request), then the connection is closed. Most network latencies experienced by web users are between their PC and their internet service provider.

The most feasible long-term solution would be T1 service, if the intent is to run the servers in house. Though it's not as expensive as it was a few years ago, expect to spend at least a few hundred dollars a month for T1; ~~plus the expense of installing and configuring a router.~~ Internet Service Providers often offer "fractional" T1 service (less bandwidth for less money), and other options.

When compared to the cost of remote hosting (which often guarantees 100% network connectivity via multiple T3 or optical backbones and 99.98% server uptime), in-house hosting can prove to be an expensive hosting option. However, broadband service into the Hagelin facility can offer more than just a backplane for a web server; the same bandwidth can be used for high-speed network service for the entire in-house network.

Costs are based on the specifications above and any extra work will be billed accordingly. Please call if you need any clarifications or have further questions. 908-859-2000. Thank you.

Very truly yours

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